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Aggregate insider trading: Contrarian beliefs or superior information?

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ABSTRACT

We decompose realized market returns into expected return, unexpected cash-flow news and unexpected discount rate news to test the relation between aggregate market returns and aggregate insider trading. We find that (1) the predictive ability of aggregate insider trading is much stronger than what was reported in earlier studies, (2) aggregate insider trading is strongly related to unexpected cash-flow news, (3) market expectations do not cause insider trading contrary to what others have documented, and (4) aggregate insider trading in firms with high information uncertainty is more likely to be associated with contrarian investment strategy. These results strongly suggest that the predictive ability of aggregate insider trading is because of insider's ability to predict future cash-flow news rather than from adopting a contrarian investment strategy. These results hold even after we control for non-informative trades and information uncertainty.

1. Introduction

Recent studies on aggregate insider trading have documented that insiders are able to predict future market movements and that they are able to time the market (Seyhun, 1988; Lakonishok and Lee, 2001). However, it is not clear from the evidence what the source of this predictability of market returns is. One possibility is that insiders are contrarian investors (Rozeff and Zaman, 1998; Lakonishok and Lee, 2001; Jenter, 2005). It is also possible that managers are better informed about their firms' future prospects and this informational advantage explains their market timing ability (Ke et al., 2003). Finally, insiders could have informational advantage and are also contrarian investors (Piotroski and Roulstone, 2005).

There is substantial evidence that corporate officers and directors are able to discern apparent mispricing in their firms' securities based on firm related information and are able to profitably trade on this.[1] If this information is related to future economy-wide activity, then aggregate insider trading should predict future market movements and the market timing ability of insiders would be based on information unanticipated by the market (see Seyhun, 1988). We differentiate this from the contrarian investment strategy of insiders and define it as superior information hypothesis, which is related to unexpected changes in future cash flow and discount rate news. If insiders are motivated to trade because of perceived mispricing, it is also conceivable they may react to market returns. It is possible that noise traders may drive market prices away from intrinsic values even in the absence of new information. Hence, a stock that was trading roughly at its intrinsic value could decline (rise) significantly because of such noise trading. Corporate insiders may then perceive the stock to be undervalued (overvalued) and buy (sell) it. To the extent that noise trading is a market-wide phenomenon, we would

[1] Previous studies based on US data unanimously documented that insiders are better informed and earn abnormal returns (Lorie and Niederhoffer, 1968; Jaffe, 1974; Seyhun, 1986; Rozeff and Zaman, 1988; Lakonishok and Lee, 2001). Using Oslo Stock Exchange data Eckbo and Smith (1998) show that insiders do not earn abnormal returns while Jeng et al. (2003) show that abnormal returns earned by insiders are restricted only to purchases. Aktas et al. (2008) find that even though the financial markets do not respond strongly in terms of abnormal returns, price discovery in the market is hastened on days that insiders are trading.

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expect market returns to 'predict' aggregate insider transactions (see Rozeff and Zaman, 1998; Chowdhury et al., 1993; Lakonishok and Lee, 2001; Jenter, 2005). Such a relationship would be viewed as insiders following a contrarian investment strategy and aggregate insider trading should be related to market expectations about future cash flows and future returns. On the other hand, if mispricing is firm specific then insiders' transactions in each firm would cancel out and aggregate insider trading should not be related to market returns. Even though under both contrarian strategy and superior information scenarios insider trading is related to market returns, the key distinction is that if insiders trade on the basis of superior information aggregate insider trading will predict future market returns while the contrarian strategy implies insider trading is a reaction to market returns.

Other related studies of managerial decisions also suggest that insiders are better informed about their companies' future prospects. For example, Ikenberry et al. (1995) find positive abnormal returns earned by shareholders of companies that have announced open market share repurchases. These abnormal returns persist for some time after the announcement. One of the main motivations for repurchases seems to be that insiders perceive the company's stock as being undervalued. Chan et al. (2007) uses a comprehensive sample of US repurchase announcements to look at whether executives possess market timing skills when announcing certain corporate transactions. Their results are consistent with the notion that managers possess market timing ability in the context of share repurchases. However, Ginglinger and Hamon (2007) using repurchases made by French firms show that share repurchases largely reflect contrarian trading rather than managerial timing ability. Loughran and Ritter (1995), on the other hand, observe a prolonged underperformance by companies following seasoned equity offerings. This is in line with the hypothesis that companies tend to issue seasoned equity when they perceive the market to be too optimistic about the prospects of their company. Baker and Wurgler (2000) find that the share of equity issues in total new equity and debt issues increases right after a year of high market returns and has been a stable predictor of US stock market returns between 1928 and 1996. The paper also provides evidence of issuing firms preferring equity finance before periods of low market returns and shunning equity in favor of debt before periods of high market returns. Overall, the results add to a growing body of evidence that managerial decisions are in response to or in anticipation of market conditions (see also Baker et al., 2006; Adams et al., 2009, among others).

A related line of research on insider trading has focused on whether aggregate insider trading can predict market movements and could be used as a tool to time the market. Even though Givoly and Palmon (1985) found no relation between insider trading and subsequent information events, Seyhun (1988) provides evidence suggesting that some of the mispricing observed by insiders in their own firms' securities is caused by unanticipated changes in economy-wide activity. Using a single-equation regression analysis he finds aggregate insider trading is correlated to market return in the subsequent 2 months following the trading activity. In a subsequent paper, Seyhun (1992) finds that aggregate insider trading is positively related to future real activity as measured by growth rates of after-tax corporate profits, the Index of Industrial Production and the Gross National Product. However, in the paper he concludes '…both changes in business conditions as well as movements away from the fundamentals contribute to the information content of aggregate insider trading'.

Chowdhury et al. (1993) find that stock market returns Granger-cause insider transactions, while the predictive content of aggregate insider transactions for subsequent market returns is slight. Lakonishok and Lee (2001) also provide evidence in support of the predictive ability of aggregate insider trading and market movement. They conclude that this ability is partially because insiders act as contrarian investors.

Previous studies simply examine the relationship between realized market return and some metric of insider trading without explicitly considering the source of predictability. Piotroski and Roulstone (2005) is an exception; their paper attempts to differentiate the source of the predictability and finds that insider trades are related to the firm's future earnings performance. However, they use the change in accounting returns as proxies for future cash flows. Cohen et al. (2002) point out that the change in accounting returns is not a good measure to proxy future cash flows.

Both conclusions of contrarian strategy of investing by insiders and insiders' ability to predict unanticipated future economy-wide activity rely on insider trading being positively related to subsequent realized market returns. These studies, however, make no attempt to determine whether the apparent predictability of market returns by aggregate insider trading is because insiders follow contrarian strategy or are better able to predict market-wide activities. For example, Rozeff and Zaman (1998) show that insiders predominantly buy (sell) shares in value (glamour) firms and interpret this as evidence of insiders trading against the market's over-reaction to past performance. Such trading behavior is consistent with insiders purchasing (selling) securities with high (low) expected returns or the greatest amount of undervaluation (overvaluation). In a related paper, Jenter (2005) provides further evidence that a top manager tends to have contrarian views with respect to valuation of his own company's stock. Based on a methodology similar to Rozeff and Zaman (1998), Jenter finds that insiders are more likely to be net sellers in growth firms (low book-to-market ratio) and net buyers in value firms (high book-to-market ratios) and ascribes this trading pattern to contrarian views of insiders on stock valuation. To strengthen this claim Jenter controls for non-information based motives, like diversification and portfolio rebalancing, of insider trading. Using variables to control for the effect of stock ownership and equity based compensation (measures more likely to lead to trading for diversification and portfolio rebalancing purposes) he finds that book-to-market has a strong and significant effect on insider trading and concludes that insider trading is more likely due to contrarian beliefs. In both these papers, the reported pattern of trading across cash flow-price or book-to-market portfolios could reflect insiders trading on market pricing errors (e.g., over-reaction to past performance), but it could also reflect insiders' superior knowledge of future earnings performance. La Porta et al. (1997) show that, on average, value (growth) firms tend to have positive (negative) future earnings announcement period returns. Because returns on earnings announcement tend to be correlated with actual changes in performance both Rozeff and Zaman (1988) and Jenter (2005) findings cannot differentiate trading on the basis of contrarian beliefs from trading on the basis of superior information about future cash flows.

The purpose of this paper is to re-examine the ability of aggregate insider trading to predict market-wide movement using return decomposition in a vector autoregressive (VAR) model framework. Such a re-examination is called for because of mixed results reported in previous papers. Moreover, it is important for the capital markets to be able to distinguish between these two sources of predictability. If insiders are trading based on contrarian strategy, then in aggregate, such trading would not provide any 'new' information about the future economy-wide activity. Aggregate insider trading would in this case imply market overreaction (under reaction) and subsequently lead to market correction. However, if insiders are trading on the basis of information related to unanticipated (from outside investors) changes in future cash flows, then aggregate insider trading will predict future real economic activities and future market returns. In order to distinguish between these two sources of predictability we closely follow